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**YAMAP0347USD**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Uriu, et al

Art Unit: Not Yet Assigned

Serial No: Not Yet Assigned

(This Application is a Division of  
Serial No. 09/525,247)

Examiner: Not Yet Assigned

Filed: Of Even Date Herewith

For: **INDUCTOR AND METHOD FOR PRODUCING THE SAME**

**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

The present Preliminary Amendment is filed together with and amends the claims of a divisional application which claims priority to previous U.S. Application No. 09/525,247, and to the previous applications to which it claims priority. Applicants respectfully request entry of this Preliminary Amendment prior to calculation of the filing fee in the divisional application filed together herewith.

**AMENDMENTS**

**Please cancel claims 8-15.**

**Please amend claim 6 so as to read as follows:**

6. (Amended) A lamination ceramic chip inductor according to claim [5] 1, wherein the interposing step includes interposing the at least one conductive pattern between insulation layers formed of a magnetic material containing an organolead compound as an additive for restricting deterioration of magnetic characteristics of the insulating layers.

**A version of the above amended claim marked to indicate the specific amendments may be found in the attached Appendix, in accordance with 37 CFR 1.121(c)(1).**

**Please add the following new claims 16-27:**

16. (New) A lamination ceramic chip inductor, formed by the process comprising the steps of:

interposing at least one conductive pattern between at least one pair of insulation layers so as to be in contact with at least one of the pair of insulation layers; and

forming a conductive coil,

wherein the interposing step includes electroforming at least one conductive pattern, and no specific gap is formed between the conductive pattern and the pair of insulation layers.

17. (New) The lamination chip inductor according to claim 16, wherein the conductive pattern has a width in the range from about 30  $\mu\text{m}$  to about 70  $\mu\text{m}$ , and a thickness in the range from about 20  $\mu\text{m}$  to about 50  $\mu\text{m}$ .

18. (New) A lamination ceramic chip inductor, formed by the process comprising the steps of:

forming a conductive coil by electroforming at least one conductive pattern;

interposing said at least one conductive pattern between at least one pair of insulation layers so as to be in contact with at least one of the pair of insulation layers;

laminating the conductive coil between said at least one pair of insulation layers to form an integral body; and

sintering the integral body to form said lamination chip inductor;

whereby in the lamination ceramic chip inductor no specific gap is formed at interfaces between the conductive pattern and said insulation layers when the integral body is sintered.

19. (New) The lamination ceramic chip inductor of claim 18, wherein the width of said conductive pattern is in the range from about 30 micrometers to about 70 micrometers and the thickness of said conductive pattern is in the range from about 20 micrometers to about 50 micrometers.

20. (New) The lamination ceramic chip inductor of claim 19, comprising a plurality of lamination layers connected together via through holes formed in at least one of the insulation layers.

21. (New) A lamination ceramic chip inductor, formed by the process comprising the steps of:

interposing at least one conductive pattern between at least one pair of insulation layers so as to be in contact with at least one of the pair of insulation layers and so as to have no specific gap between the at least one conductive pattern and the at least one pair of insulation layers; and

forming a conductive coil,

wherein the interposing step includes electroforming the at least one conductive pattern, and the at least one conductive pattern has a thickness of 10  $\mu\text{m}$  or more and a width to thickness ratio from 1 to less than 5.

22. (New) A lamination ceramic chip inductor according to claim 21, wherein the interposing step includes interposing a plurality of conductive patterns, and wherein the step further comprises printing a thick film conductor to electrically connect at least two of the conductive patterns to each other.

23. (New) A lamination ceramic chip inductor according to claim 22, wherein the interposing step includes interposing an electroformed conductive pattern having a shape of a straight line.

24. (New) A lamination ceramic chip inductor according to claim 21, wherein the at least one pair of insulation layers are magnetic.

25. (New) A lamination ceramic chip inductor according to claim 21, wherein the at least one pair of insulation layers are formed of a material containing one of a non-shrinkage powder which does not shrink from sintering and a low ratio shrinkage powder which shrinks slightly from sintering.

26. (New) A lamination ceramic chip inductor according to claim 21, wherein the at least one pair of insulation layers are formed of a magnetic material containing an organolead compound as an additive for restricting deterioration of magnetic characteristic of the insulating layers.

27. (New) A lamination ceramic chip inductor according to claim 21, wherein the interposing step includes electroforming the at least one conductive pattern of a silver plating liquid containing no cyanide.

#### **REMARKS**

Upon entry of the present amendment, claims 1-7 and 16-27 are pending in the present application. The filing fee transmitted with the divisional application reflects the total number of claims pending upon entry of the present preliminary amendment, 4 independent and 19 total claims.

The present application is a divisional application based on Application No. 09/525,247 ("the parent"). The present application as filed in the parent case

contains claims 1-15, of which claims 8-15 are canceled herein. New claims 16-27 are added herein. Of these new claims, claims 16-20 were submitted in a preliminary amendment filed in the parent application (also numbered 16-20). In the parent application, claims 1-7 and 16-20 were withdrawn from consideration following Applicants' election of claims 8-15 therein. Accordingly, claims 1-7 and 16-27 are pending in the present application, on entry of the present preliminary amendment. Claims 1, 16, 18 and 21 are independent.

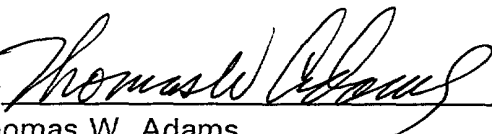
Newly submitted claims 16-27 are supported in the claims and specification of the parent application as originally filed, and at page 26, lines 7-14 of the present specification. No new matter is added by these amendments.

The present amendment of claim 6 is made for clarification purposes only, to correct the dependency.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below. If any additional fees are required for the filing of these papers, Applicants request the Commissioner to charge those fees to deposit account #18-0988.

Respectfully submitted,  
RENNER, OTTO, BOISSELLE & SKLAR, P.L.L.

Date: January 15, 2001

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**APPENDIX**

6. (Amended) A lamination ceramic chip inductor according to claims [5] 1, wherein the interposing step includes interposing the at least one conductive pattern between insulation layers formed of a magnetic material containing an organolead compound as an additive for restricting deterioration of magnetic characteristics of the insulating layers.